Bojana Dinić[1]
Bojana Bodroža

Department of Psychology, Faculty of Philosophy, University of Novi Sad

"MY PRECIOUS… TOILET PAPER": STOCKPILING DURING THE COVID-19 PANDEMIC IS RELATED TO SELFISHNESS, BUT NOT TO FEAR

Stockpiling during a crisis is usually seen as a response to experienced fear or as a form of social behavior. This study aimed to explore the effects of personality traits linked to antisociality (selfishness) and prosociality (prosocial tendencies) and the context-related state factor (fear related to the pandemic) on stockpiling during the COVID-19 pandemic. The final sample included 545 participants (77.6% females) from Serbia. During the proclaimed emergency state and curfew in March and April 2020, data were collected on three aspects of selfishness (adaptive, egocentric, and pathological), six types of prosocial tendencies (altruism, dire, compliant, emotional, public, and anonymous), and the state of fear related to the pandemic. First, the results showed that gender, age, and educational level were not related to stockpiling, while household size positively correlated with stockpiling. Second, the results showed that adaptive and pathological selfishness as well as the public prosocial tendency showed low positive correlations with stockpiling, while altruism showed a low negative correlation. The obtained correlations held even when household size was controlled for. However, in the regression analysis, only adaptive selfishness showed a small but significant effect on stockpiling, over and above household size. In sum, the results showed that fear related to the pandemic was not associated with stockpiling, indicating that stockpiling could be seen as a form of selfish behavior.

Keywords: stockpiling, selfishness, prosocial tendencies, fear, the COVID-19 pandemic

1 Corresponding author email: bojana.dinic@ff.uns.ac.rs

Introduction

The novel coronavirus was first identified in the Chinese province of Hubei in December 2019. In January 2020, the World Health Organization declared an outbreak. On March 11, it declared the pandemic of COVID-19 – a disease caused by this virus. The first official case of a COVID-19 infection in Serbia was registered on March 6. The Serbian Government declared a state of emergency only 9 days later, on March 15. Restriction of movement was enforced for all citizens. At first, it was in effect every day from 8 p.m. until 5 a.m. the following morning. Later, this measure was gradually tightened to reach movement restriction from 5 p.m. until 5 a.m. on workdays as well as throughout the whole weekend. The emergency state ended on May 6, while other recommended protective measures remained. The emergence of a new, highly infectious virus is a stressful situation in itself and introducing a state of emergency in the country only raises general concern and anxiety over the situation (Salari et al., 2020).

One of the specific behaviors during global crises such as a pandemic is stockpiling goods. Following the outbreak of the novel coronavirus in early March, many people started to store larger quantities of food and medical supplies (Knotek II et al., 2020) as well as cleaning and hygiene products. Each country registered stockpiling among citizens (e.g., 61% among participants from Denmark and the United Kingdom, see Dammeyer, 2020). Although there is no official record of the Statistical Office of the Republic of Serbia, Serbian news reported a 91-482% increase in the sales of specific items during March 2020 (Bankar, 2020, April 4th). This kind of behavior has been observed during other global crises, such as hurricane seasons and volcanic eruptions. For example, in one qualitative study, it was shown that shoppers who engaged in panic buying during hurricanes did not exhibit this behavior before the hurricane season (Kulemeka, 2010).

Stockpiling is procuring real or perceived emergency supplies and it refers to the "phenomenon of a sudden increase in buying of one or more essential goods in excess of regular need provoked by adversity, usually a disaster or an outbreak resulting in an imbalance between supply and demand" (Arafat et al., 2020a, pp. 100). Stockpiling stems from an individual's response, either rational or emotional (when it usually refers to panic buying), to perceived or predicted scarcity (Micalizzi et al., 2020). Scarcity may cause stress, anxiety, fear or panic, leading people to stock more goods than they need (Sterman & Dogan, 2015). According to literature, stockpiling could be seen as a behavioral strategy of regulation of distress and fear (e.g., Rajkumar, 2020) or as an outlet for regaining control over the situation, both caused by the uncertainty of the situation (e.g., Arafat et al., 2020b; Yuen et al., 2020). Thus, fear motivates individuals to make purchases because they could offer them a sense of security, comfort, momentary escape, and reduced stress. Such behavior is often not

motivated by the actual need for the goods, but rather by the need for the regulation of negative emotions (see Yuen et al., 2020).

Indeed, previous research has shown that worry about COVID-19 is positively related to stockpiling (Micalizzi et al., 2020). In the study that Cyprzanska and Neylek (2020) carried out in Poland, stockpiling was not assessed on its own, but in combination with other behaviors characterized as self-preservation. In this study, self-preservation behaviors were related to the panic about the novel coronavirus and higher self-preservation was observed after the first fatality in Poland was announced. Furthermore, the panic mediated the relationship between the perceived threat to self and self-preservation behaviors. Brizi and Biraglia (2020) showed that the need for cognitive closure, which is related to the intolerance of uncertainty, anxiety, and risk avoidance, is positively related to both stockpiling and food waste. These authors concluded that individuals with a high need for cognitive closure more often choose the individualistic strategy of buying more food, even if this leads to less food for others and more food waste.

This brings us to another characteristic of stockpiling. As a social behavior, stockpiling could be harmful to others, leaving fewer supplies for those who may need them. In this vein, stockpiling could be seen as a socially undesirable behavior (see Yuen et al., 2020) or as a lack of prosocial behavior (Columbus, 2020). One of the basic personality traits that are commonly linked to prosocial tendencies is Honesty-Humility from the HEXACO model (Ashton & Lee, 2007). A previous study showed that Honesty-Humility was negatively related to extra shopping in the period from March 13 to March 17 2020, although the correlation was low (Columbus, 2020). Honesty-Humility could be seen as the core of the constellation of socially aversive traits, i.e., Dark Triad traits (Machiavellianism, narcissism, and psychopathy, see Hodson et al., 2017). Thus, it is not surprising that Dark Triad traits were related to stockpiling behavior (the authors used the term *hoarding*) in the period between March 15 and March 29 2020 (Nowak et al., 2020). In another study, stockpiling was negatively related to social distancing during the COVID-19 pandemic, which could also be seen as a form of prosocial behavior (see Cao et al., 2020).

However, not all studies have confirmed the significant and negative link between stockpiling and traits that are related to prosociality. For example, Garbe et al. (2020) explored the stockpiling of only one item – toilet paper – in the period between March 23 and March 29 2020. Across 22 countries, they did not find that Honesty-Humility from the HEXACO model was associated with stockpiling, but they found the effects of other personality traits. People high on Conscientiousness reported shopping more frequently in the previous two weeks, as well as buying larger amounts and already stocking more toilet paper. Those low on Openness to Experience also had more stocked toilet paper in their households. Older individuals and people who felt more threatened by COVID-19 shopped more frequently, bought more packages, and had more rolls in stock, while household size was positively related to the number of

bought packages only. Emotionality predicted the perceived threat and had an indirect effect on the number of bought packages, but did not affect shopping frequency or the number of toilet rolls stocked (Garbe et al., 2020). Interestingly, Zettler et al. (2020) showed that hoarding was weakly negatively related to Honesty-Humility and Agreeableness and positively related to Openness to Experience and narcissistic rivalry, but they concluded that there was no substantive link between hoarding and personality traits across the samples they used. However, it should be noted that they followed hoarding behavior over a longer period of the pandemic, from March to May 2020.

In a study in which Big Five personality traits were linked to stockpiling, higher Extraversion and Neuroticism and lower Openness to Experience and Conscientiousness were related to stockpiling and buying extra products, but the same was not true for Agreeableness, the trait related to prosocial tendencies (Demmeyer, 2020). Demmeyer (2020) also showed that sex, age, the level of education, and the number of members in the household did not have an effect on stockpiling.

These findings suggest that when exploring the phenomenon of stockpiling, some demographic characteristics should be taken into account. For example, Hori and Iwamoto (2014) explored the effects of demographic characteristics on panic buying among citizens of Tokyo following the 2011 Tohoku earthquake. They showed that households in urban areas, households with a large number of family members, and households with a middle-aged or older full-time homemaker wife were more likely to engage in panic buying. Micalizzi et al. (2020) showed that stockpiling in the USA in the period from April 8 to April 10 2020 was more commonly observed among males (note that stocked items did not only include food and medicine but also weapons, gold, and cash), younger individuals, those with a higher educational level, and those who have more individuals in the home, while income had no significant effect. However, in the regression analysis, only the number of individuals in the house emerged as a significant predictor, along with worry about the pandemic, conservative political orientation, and keeping less social distance.

In sum, previous results have revealed that stockpiling behavior in a crisis could be explained by at least two mechanisms: fear of the pandemic (e.g., Micalizzi et al., 2020), which could be seen as a context-related state factor, and the lack of prosociality (Columbus, 2020) or the antisocial tendency (Nowak et al., 2020), which could be seen as a personality factor. This study aimed to further explore the effects of specific personality and context-related state factors on stockpiling during the COVID-19 pandemic, these being the main mechanisms underlying this kind of behavior. Previous results have shown that prosocial and antisocial tendencies are not simply the opposite poles of one dimension (e.g., Lebowitz et al., 2019), which is why it seems warranted to explore them both. Since the trait of selfishness could be seen as the core of antisocial tendencies (e.g., Diebels et al., 2018) and it is negatively related to Honesty-Humility (Raine & Uh, 2018), we explored the effect of selfishness

on stockpiling along with the effects of different types of prosocial tendencies. Fear related to the pandemic was explored as a context-related state factor. Since some demographic characteristics have proven to be important predictors of stockpiling (e.g., the number of household members, see Micalizzi et al., 2020), we included them in order to control their effects on relationships between stockpiling and both personality and context-related state factors.

Method

Participants and Procedure

The data were collected online in the period from March 28 to April 6 2020 (the 2nd and the 3rd week of the emergency state). Information about the study was spread via social networks and people were invited to participate and to forward the invitation to others. At the beginning, participants were informed about study aims and only those who gave their consent proceeded to study questions. Participation in the study was anonymous and we did not collect any identifying data.

The original sample included 581 participants. After the elimination of univariate outliers ($z > \pm 3.33$, see Tabachnick & Fidell, 2013) on items about hoarding and sum scores of the used measures, 545 participants (77.6% females) were kept. Participants were aged between 19 and 70 years ($M = 34.03$, $SD = 10.09$). Most of them were highly educated (51.6% university graduates, 10.6% university postgraduated, 21.5% students, and 5.7% finished college), while 10.6% finished primary or secondary school. Participants reported 1 (meaning they lived alone) to 11 household members. Due to the small frequencies of participants in households with more than 6 members, these answers were merged into one category. Thus, 12.8% reported that they lived alone, 26.8% that they lived with another person, 21.8% that they lived with two more household members, 25.7% that they lived with three more household members, 8.1% that they lived with four more people, and 4.8% that they lived with five more household members. The recoded variable of household size had $M = 3.04$ and $SD = 1.34$. The study was a part of a larger research project, which was approved by the Ethical Committee of the Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia, which is the Second Instance Commission of the Ethical Committee of the Serbian Psychological Society (No. 202003221959_nytc).

Measures

Stockpiling

Stockpiling during the COVID-19 pandemic was measured via an ad-hoc constructed scale containing 9 items (e.g., toilet paper, flour, masks, and disinfectants). Participants stated how many items (in liters, kilograms or pieces, depending on how the item is sold) they bought during the previous week. In the exploratory factor analysis (principal axis method) carried out on standardized scores (in order to express each item on the same scale), only one factor had eigenvalue over 1 (λ = 2.24) and it explained 24.86% of the common variance (the eigenvalue of the second factor was 0.68). We used the factor score as a measure of stockpiling in the analyses. Cronbach's alpha on standardized scores was .71. Descriptives for each item are presented in Table 1 and factor loadings can be seen in Table A in Supplement.

Fear Related to the Pandemic

Fear related to the pandemic was measured by the Fear scale of the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988, for the Serbian adaptation see Mihić et al., 2014), which consists of 5 items (α = .89). Participants were asked to judge on a five-point Likert scale (from 1 - *not at all* to 5 - *very much*) how they felt since the COVID-19 pandemic started in Serbia. The alpha obtained in this study was in line with previous research (Mihić et al., 2014).

Selfishness

The Selfishness Questionnaire (SQ; Raine & Uh, 2018) contains 24 items that measure three aspects of selfishness: adaptive (8 items, α = .73), egocentric (8 items, α = .70), and pathological selfishness (8 items, α = .76). Adaptive selfishness describes selfish acts with benefits for oneself and close persons such as family and friends; egocentric selfishness describes a single-minded attentional focus on the self; pathological selfishness includes inflicting harm upon others for self-advancement purposes. A five-point Likert scale was used (from 1 - *strongly disagree* to 5 - *strongly agree*). Since there was no previous validation study of the Serbian adaptation of the SQ, we conducted a confirmatory factor analysis to calculate model fit. Fit indices indicated excellent model fit: DWLSχ^2(249) = 464.71, *p* < .001, CFI = .97, TLI = .97, RMSEA = .04 (90% CI .03-.05), SRMR = .06. Loadings ranged from .30 to .62. The obtained alphas in this study were in line with those obtained in a previous study (.76 for egocentric, .71 for adaptive, and .75 for pathological, see Raine & Uh, 2018).

Prosocial Tendencies

The Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002) contains 23 items and assesses 6 types of prosocial tendencies: altruism, defined as voluntary helping motivated primarily by one's concern for the needs and welfare of others (5 items, α = .47), compliant prosocial behavior, defined as helping others in response to a verbal or nonverbal request (2 items, α = .78), emotional prosocial behavior, defined as helping others under emotionally evocative circumstances (4 items, α = .77), dire, defined as helping in crises or emergencies (3 items, α = .54), public prosocial behavior, performed in front of an audience and at least partially motivated by the desire to gain the approval and respect of others and enhance one's self-esteem (4 items, α = .72), and anonymous prosocial behavior, defined as helping without others being aware of who had helped them (5 items, α = .81). Participants were asked to rate the extent to which each item described them on a five-point scale (from 1 - *does not describe me at all* to 5 - *describes me greatly*). In this research, we used the Croatian version of the PTM (Wertag et al., 2018) and adapted it to the Serbian language. In the Croatian sample, the alphas of the scales ranged from .56 (altruistic) to .84 (anonymous and emotional, see Wertag et al., 2018) and similar patterns could be seen in the alphas obtained in this study. Since there was no previous validation study of the Serbian adaptation of the PMT, we conducted a confirmatory factor analysis to calculate model fit. Fit indices indicated good model fit: $DWLS\chi^2(215)$ = 457.55, p < .001, CFI = .95, TLI = .94, RMSEA = .05 (90% CI .04-.05), SRMR = .06. Loadings ranged from .23 to .82.

The measures used in this study were a part of a larger data set and they were given in the following order: Fear related to the pandemic, Stockpiling, the Selfishness Questionnaire, the Prosocial Tendencies Measure, and in the end, demographic variables.

Results

Descriptives for selfishness and prosocial tendencies are presented in Table B in Supplement, along with correlations between these variables. Descriptives for each stocked item in the period of one week are presented in Table 1. Quantities of each stocked product ranged from zero to one hundred (for sanitary gloves) and the maximum quantities for all products seemed to be far greater than the regular needs of an average family. Mean values were not high, indicating that the majority of people did not buy large quantities of these products. However, some participants did mention in open-ended questions that they were prevented from buying more goods, because of the short supplies or complete lack of certain products. Likewise, we did not ask if the participant was the person who usually carried out grocery shopping in their household, nor if they already had stocks of the specified products at home.

These limitations should be taken into account in the interpretation of the results.

Since skewness and kurtosis of some items were above the recommended values for normal distribution, each item was normalized (via the rankit method) and standardized. However, the correlation between the factor score on normalized standardized and standardized variables was high (r = .93, p < .001). The preliminary analysis showed no differences in the results based on these two types of scores, which is why we presented the analyses on standardized scores.

Table 1
Descriptives for each stocked item

	Min	Max	M	SD	Sk	Ku
Flour (in kg)	0	35	2.95	4.49	3.51	14.90
Sugar (in kg)	0	10	1.05	1.55	3.18	14.00
Oil (in liters)	0	20	1.67	1.84	4.16	29.32
Can (no. of cans)	0	25	3.74	4.10	1.85	4.81
Toilet paper (no. of rolls)	0	50	10.99	8.47	1.27	2.68
Disinfectant (no. of bottles)	0	7	1.26	1.23	1.48	2.46
Soap (no. of soaps)	0	12	2.18	1.92	1.45	3.35
Sanitary gloves (no. of pairs)	0	100	8.78	19.26	3.53	12.87
Face mask (no. of masks)	0	40	3.65	5.07	2.51	9.67

Note. Min/Max – minimal and maximal score; *M* – mean on item level; *SD* – standard deviation, *Sk* – skewness; *Ku* – kurtosis.

There was no gender difference in stockpiling (t(491) = -0.04, p = .97) and correlations with age (r = .07, p = .102) and educational level ($ρ$ = -.03, p = .57) were not significant. However, there was a significant correlation with the number of members in the household ($ρ$ = .25, p < .001), with those living in households with more members being more prone to stockpiling. Thus, the effect of household size should be considered in the exploration of relationships between stockpiling and personality and context-related state factors.

Correlations between stockpiling and other variables showed a positive relationship with adaptive and pathological selfishness (Table 2, for the remaining correlations see Table B in Appendix). Additionally, stockpiling was positively related to the public prosocial tendency and negatively related to the altruistic prosocial tendency (due to the lower alpha in altruism, we calculated the correlation with a correction for attenuation, r = -.17). All correlations were small in magnitude. Interestingly, there was no significant relationship between stockpiling and fear related to the pandemic. The correlations remained significant after they were partialized by the number of household members.
Table 2

Descriptives and correlations between stockpiling and other variables

	M	*SD*	Stockpiling	Stockpiling partialized by household size
Context-related state factor				
Fear related to the pandemic	2.75	0.98	.05	.07
Specific personality factors				
Adaptive selfishness	2.38	0.71	.13**	.15***
Egocentric selfishness	1.93	0.58	.05	.08
Pathological selfishness	1.68	0.59	.11**	.13**
Dire prosocial tendency	3.75	0.77	.03	.03
Public prosocial tendency	1.40	0.52	.11**	.11*
Anonymous prosocial tendency	3.31	0.94	.04	.02
Compliant prosocial tendency	4.11	0.78	-.00	-.02
Emotional prosocial tendency	3.71	0.85	.07	.05
Altruism prosocial tendency	4.33	0.52	-.10*	-.10*

Note. *** $p < .001$. **$p < .01$. *$p < .05$.

In order to further explore the effects of personality traits and the context-related state of fear on stockpiling, a hierarchical regression analysis was conducted. Household member number was entered in the first step to control its effect and the remaining variables were entered in the second step. Since the number of predictors was rather large, the stepwise method was chosen in order to select the optimal set of predictors that results in the best performing model (Tabachnick & Fidell, 2013). The results showed that household size had a significant effect and explained 7% of the stockpiling ($F(1,491) = 35.92$, $p < .001$; $\beta = .26$, $p < .001$). Among variables added in the second step, only adaptive selfishness had a significant effect over and above household size ($\beta = .14$, $p = .001$) and explained an additional 2% of the stockpiling ($F(1,490) = 11.12$, $p = .001$).

Discussion

The main aim of this research was to explore the effects of specific personality and context-related state factors on stockpiling during the early stage of the COVID-19 pandemic. In line with previous theoretical assumptions (e.g., Arafat et al., 2020b; Yuen et al., 2020) and empirical evidence (e.g., Columbus, 2020; Micalizzi et al., 2020), we explored the two main mechanisms underlying stockpiling during crises: fear related to the pandemic as a context-related state factor and the lack of prosocial tendencies or antisocial tendencies as specific personality factors. The main result of this study was that stockpiling

was related to specific personality traits and not to the context-related state of fear. Thus, our results highlight the role of specific personality traits in stock-piling behavior. They are in line with previous studies that identified a link between stockpiling during the pandemic and antisocial and socially aversive traits (Nowak et al., 2020) or low prosocial tendencies (Columbus, 2020).

However, the results of our study are not in line with previous research that found stockpiling to be related to worry about the pandemic and the feel-ing of threat from COVID-19 (Garbe et al., 2020; Micalizzi et al., 2020). Our findings imply that stockpiling might result from a lack of solidarity and con-cern for others' needs and not from fear, anxiety, and similar emotional states.

Relations between specific personality traits and stockpiling held even after household size was controlled for. In most previous studies, household size emerged as an important correlate of the number of stocked toilet paper rolls (Garbe et al., 2020) as well as other items (Micalizzi et al., 2020), which is in line with our results. However, it should be noted that there is a study in which living agreement was not associated with buying extra amounts of prod-ucts (Dammeyer, 2020). The effects of other demographic characteristics (sex, age, and educational level) were not significant. Previous studies have shown mixed results about the effects of these characteristics (e.g., Brizi & Biraglia, 2021; Dammeyer, 2020; Garbe et al., 2020; Micalizzi et al., 2020).

Furthermore, our results highlight the roles of specific selfishness dimen-sions and motives for prosocial behavior in stockpiling. Significant correlates of stockpiling were adaptive and pathological selfishness as well as a higher tendency towards public prosocial behavior and lower altruism. However, in the regression analysis, only adaptive selfishness emerged as a significant predictor of stockpiling over and above household size. Adaptive selfishness is a construct based on evolutionary theory. It is the least pathological form of selfishness and it refers to care not only for oneself but also for close people, i.e., family members and sometimes friends (Raine & Uh, 2018). In this vein, some selfish behaviors could be justified on the basis that close ones benefit from it, which in turn serves to promote genetic fitness. Thus, people who ex-hibit a tendency towards selfishly providing for oneself and their own family are more likely to stock larger quantities of goods. It could be assumed that this way, they ensure access to essential goods for close ones, which in turn ensures their own promotion of genetic fitness.

However, the other question is whether this "survival" strategy is optimal and advantageous. In our study, it was related to stockpiling over and above household size, which shows that it is not exactly optimal, because more resources (e.g., money) were spent than necessary. As stated Raine and Uh (2018), adaptive selfishness should not be seen as adaptive in absolute terms, but as more functional than other forms of selfishness. Their results showed that it was related to antisocial traits as well as other aspects of selfishness, but that it had the weakest associations with these traits among all types of selfishness.

Although pathological selfishness did not have a unique predictive contribution in the regression analysis, its significant correlation with stockpiling highlights the antisocial nature of this kind of behavior. Pathological selfishness is viewed as the most antisocial form of selfishness and it includes manipulation, exploitation of others, and reward-seeking for self-advancement (Raine & Uh, 2018). Moreover, stockpiling showed a positive correlation with the tendency towards public prosocial behavior and it correlated negatively with altruism. In previous research, the public prosocial tendency has been negatively related to altruism (Carlo & Randall, 2002) and Agreeableness, while it has not been related to volunteer work, honorary work office activities, or laboratory-induced prosocial behavior (Rodrigues et al., 2017). The public prosociality is related to self-oriented motives and it is driven by the desire to gain the approval and respect of others and enhance one's self-worth (Carlo & Randall, 2002). Thus, it does not represent a genuine concern for others' well-being. Therefore, our study showed that stockpiling is associated with little concern over welfare of others.

There are several limitations of this study. First, the sample was convenient and comprised more women than men. Second, we did not ask the participants whether they or other members of their household where in charge of buying supplies. Furthermore, some participants stressed that they did not have the opportunity to buy goods, because local stores were already out of supplies. These factors could account for the rather low correlations obtained in this study. It is possible that if these factors were controlled for, the correlations with other measured constructs would have been higher or, in some cases, statistically significant. This might explain the insignificant relationship with fear of the pandemic, which emerged as a significant determinant of stockpiling in certain studies (e.g., Micalizzi et al., 2020). Since store supplies cannot be controlled, the suggestion might be to reframe the question and ask about the planned purchase. When it comes to the issue of who buys supplies for the household, future studies could analyze only those who carry out this role. Third, the generalizability of the results is limited to the local context, since the proclaimed restriction measures differed from country to country. Fourth, we did not measure fear of the pandemic or infection itself, but rather the state of fear that emerged after the pandemic started. Thus, different relations could be expected if the measure had a more specific scope. Finally, since relations between personality traits and stockpiling were low, there is a need to include other variables in the explanation of this behavior. Although fear related to the pandemic was not correlated with stockpiling, the effects of other context-related factors could be explored in future studies, such as trust in the government and the community, the proclamation of severe protective measures, the impact of media informing about scarcity, and the communication strategies of the crisis headquarters (see Yuen et al., 2020).

Despite these limitations, this study contributes to the understanding of stockpiling as a form of social behavior and gives further evidence of relation-

ships between specific personality traits and stockpiling during global crises. Although correlations between personality traits and stockpiling were low, our results indicate that not all people react the same to the challenges of a global crisis. Our results suggest that it would be useful if media reports propagated solidarity with others and promoted responsive and restrained buying by raising empathy and encouraging perspective-taking with those who are in greater need. At the same time, media can help in establishing restrained buying by informing the citizens about the amounts of goods that are objectively needed per capita and within a specific timeframe (e.g., two weeks). Finally, in case of a prolonged crisis, governments could come out with measures that would control the amounts of bought products in accordance with household size and membership to vulnerable groups.

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Appendix

Table A
Factor loadings on the stockpiling measure (principal axis method)

Item	Loading
Flour	.49
Sugar	.67
Oil	.57
Can	.21
Toilet paper	.48
Disinfectant	.55
Soap	.57
Sanitary gloves	.23
Face mask	.40

Table B
Correlations between variables

	1	2	3	4	5	6	7	8	9	10
1 Fear related to the pandemic	1									
2 Adaptive selfishness	.10	1								
3 Egocentric selfishness	.01	.61	1							
4 Pathological selfishness	.04	.70	.56	1						
5 Dire	.01	-.02	-.16	-.05	1					
6 Public	.10	.20	.17	.27	.05	1				
7 Anonymous	.03	-.14	-.21	-.10	.19	-.06	1			
8 Compliant	.00	-.14	-.25	-.19	.42	-.06		1		
9 Emotional	.15	.10	-.03	.05	.56	.11	.16	.37	1	
10 Altruism	-.10	-.39	-.31	-.36	-.09	-.42	.05	.02	-.20	1
M	2.75	2.38	1.93	1.68	3.75	1.40	3.31	4.12	3.72	4.33
SD	0.99	0.71	0.58	0.59	0.77	0.52	0.94	0.78	0.85	0.52

Notes. M – mean; *SD* – standard deviation. Correlations ± .10 are significant at $p < .05$.

Bojana Dinić
Bojana Bodroža

Odsek za psihologiju, Filozofski fakultet, Univerzitet u Novom Sadu

"MY PRECIOUS… TOILET PAPER": GOMILANJE ZALIHA TOKOM COVID-19 PANDEMIJE JE POVEZANO SA SEBIČNOŠĆU, ALI NE I SA STRAHOM

Gomilanje zaliha tokom krize se obično shvata kao reakcija na doživljeni strah ili kao forma socijalnog ponašanja. Cilj ovog istraživanja je ispitivanje efekata osobina ličnosti iz domena antisocijalnih (sebičnost) i prosocijalnih tendencija i stanja specifičnog za konktest pandemije (strah u vezi s pandemijom) na gomilanje zaliha tokom COVID-19 pandemije. Istraživanje je sprovedeno tokom vanrednog stanja, po uvođenju policijskog časa, u martu i aprilu 2020. god. i finalni uzorak obuhvata 545 ispitanika (77.6% ženskog pola) iz Srbije. Prikupljeni su podaci o tri dimenzije sebičnosti (adaptivna, egocentrična i patološka), šest tipova prosocijalnih tenencija (altruizam, smelost, pomaganje na zahtev, u emocionalno zahtevnim situacijama, javno i anonimno) i stanje straha u vezi s pandemijom. U pogledu demografskih karakteristika, rezultati pokazuju da pol, starost i nivo obrazovanja nisu povezani sa gomilanjem zaliha, ali broj članova domaćinstva ostvaruje pozitivnu vezu sa gomilanjem zaliha. Potom, adaptivna i patološka sebičnost, kao i tendencija pomaganja javno, ostvaruju niske pozitivne korelacije sa gomilanjem zaliha, dok altruizam ostvaruje nisku negativnu korelaciju. Dobijene korelacije ostaju značajne i nakon kontrole efekta veličine domaćinstva. Međutim, u regresionoj analizi, samo adaptivna sebičnost ostvaruje mali ali značajan efekat na gomilanje zaliha, povrh varijanse veličine domaćinstva. Rezultati pokazuju da strah u vezi s pandemijom nije povezan sa gomilanjem zaliha, što ukazuje na to da se gomilanje zaliha može shvatiti kao forma sebičnog ponašanja.

Ključne reči: gomilanje zaliha, pandemija COVID-19, prosocijalne tendencije, sebičnost, strah